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CASE REPORT

Primary Aortogastric Fistula

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Introduction

Primary aorto-enteric fistulae are very rare, usually between an aortic aneurysm and the gastrointestinal tract, the third and fourth portions of the duodenum in the majority. Oesophagus, jejunum and other parts of the intestine are rarely involved. An aortogastric fistula, as in this case report, is an extraordinary localisation site.

Case Report

A 60-year-old male was referred following a laparotomy due to massive upper gastrointestinal (GI) bleeding. Abdominal exploration and gastrotomy revealed a pulsating mass originating from the gastro-oesophageal junction and extending to the corpus of the stomach. The patient was packed with pads at this stage and referred to our hospital. The patient history revealed a moderate health condition and no signs of an inflammatory disease prior to admission. Chest X-ray showed signs of chronic obstructive lung disease. The computed tomography (CT) examination of the abdomen revealed a normal thoracic aorta and a 6-cm aneurysmatic enlargement next to gastric fundus (Fig. 1). Digital subtraction angiography (DSA) revealed a suprarenal saccular aneurysm, arising from the diaphragmatic hiatus and extending to the proximal part of the coeliac artery without extravasation (Fig. 2). The patient was admitted to surgery with a preliminary

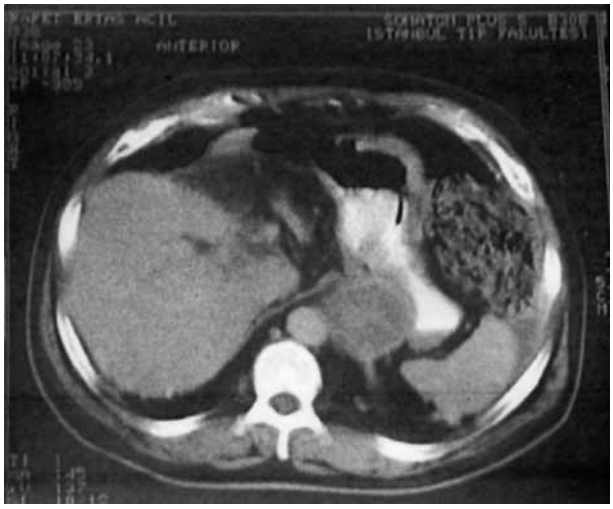

Fig. 1. CT demonstrates aortic aneurysm with the delineation of the gastro-aortic border and a towel placed during the first operation lying above the spleen.

diagnosis of primary aortogastric fistula. Via a left thoraco-abdominal incision, all abdominal organs were pulled towards the right side. The relationship of the saccular aneurysm and posterior gastric wall was identified. The thoracic aorta was clamped for proximal control, following 5000 IU infusion of standard heparin, and distally the aneurysm was clamped just below the coeliac artery. Aneurysmotomy identified a 2×2-cm defect in the anterior aortic wall. The defect was closed with a Dacron patch, and the posterior gastric wall with single-layer running sutures. No specific micro-organisms were detected in the aneurysm wall following cultures. The histopathological examination of the aortic wall specimen revealed an atherosclerotic vascular wall with all layers involved

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Fig. 2. Angiography shows supracoeliac saccular aneurysm formation.

in the process. The patient was admitted to the intensive care unit (ICU), and total athelectasis of the left lung on the third postoperative day was handled with bronchoscopic aspiration. On the eighth postoperative day, total wound dehiscence occurred and the surgical exploration revealed no abdominal abnormality besides minimal free fluid in the abdominal cavity, and polypropylene graft was applied due to abdominal compartment syndrome which led us to "open abdomen" in terms of skin closure. The culture of the free fluid revealed Gram-negative rods. On the 12th day percutaneous tracheostomy was applied, and the culture revealed methicillin-resistant *Staphylococcus aureus* (MRSA). Progressive respiratory distress was succeeded by adult respiratory distress syndrome (ARDS), and the patient died on postoperative day 28 from multi-organ failure.

Discussion

Aortogastric fistula is reported rarely after Nissen fundoplication or oesophagectomy.[1,2] Primary aortogastric fistula due to the erosion of a mycotic or an atherosclerotic aneurysm has also been reported.[3,4] Secondary aortogastric fistula may be due to a hiatal hernia, penetrating peptic ulcer, gunshot wound or a tube gastrostomy. The underlying aetiology in primary aorto-enteric fistula is generally an abdominal aortic aneurysm. Aorto-enteric fistulae may present as upper GI bleeding as in our case. The bleeding may be abundant or intermittent "herald" bleeding with hypotension and syncope.[5] Endoscopic examination is generally beneficial, but, due to large clots, this is a troublesome procedure. GI bleeding, abdominal pulsating mass and abdominal pain may be very rarely present as a triad. This entity should be suspected and contrast CT is of importance at this stage. CT may reveal an aortic aneurysm, the deletion of the plane between the stomach and duodenum or gas surrounding the aneurysm.[5] Angiography may be necessary to identify the renal and visceral arteries. The entity is sometimes diagnosed during surgery.[6] The appropriate treatment is to dissect the aneurysm from the fistulised portion, primary repair of the fistula, aneurysmectomy, aortic reconstruction with synthetic grafts and omental wrapping of the graft or extra-anatomic bypass procedures. Mortality (30–70%) and morbidity rates still remain high in primary aorto-enteric fistulae.[5,6] The aim of this report is a reminder of this rare entity as one differential diagnosis of gastrointestinal bleeding.

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